Electric Bus

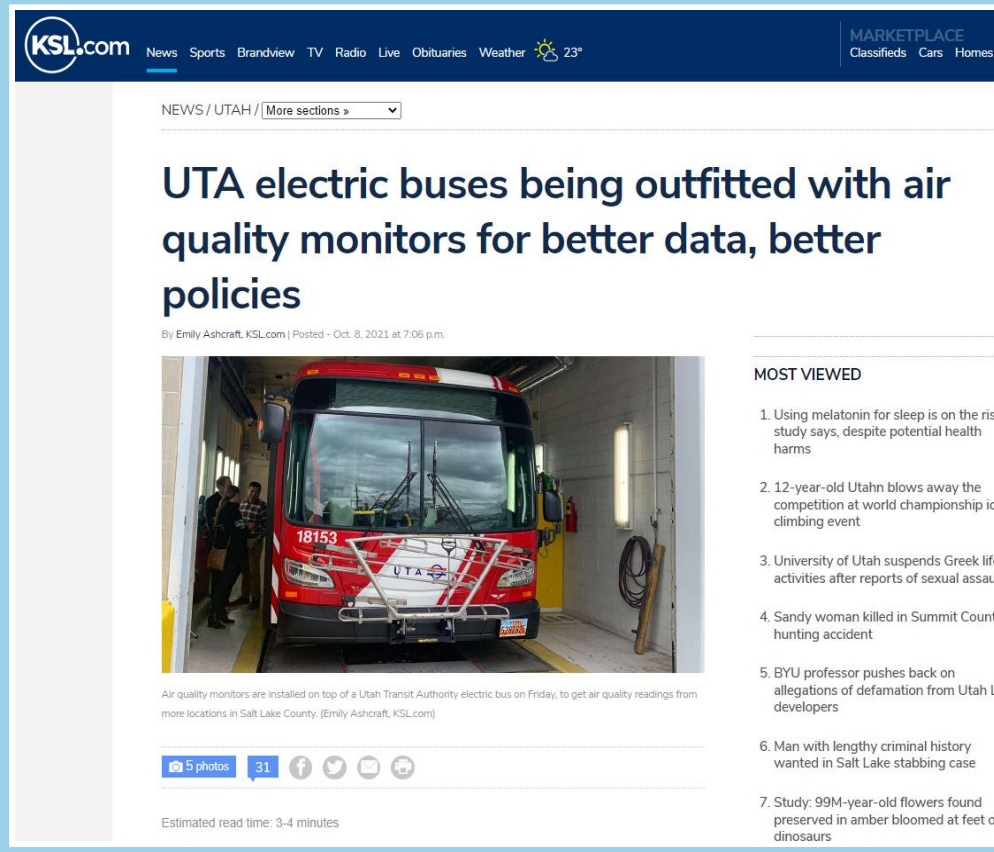
Air Quality Monitoring Project

February 2022

SALT LAKE COUNTY
REGIONAL DEVELOPMENT

Project History

- First-of-kind proposal to put air monitors on electric buses
- Initial project scope called for 3 air monitor systems on 3 UTA Electric buses
- Designated a pilot project to test technology
- Utah Legislature provided $80,000 towards project



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UTA electric buses being outfitted with air quality monitors for better data, better policies

By Emily Ashcraft, KSL.com | Posted - Oct. 8, 2021 at 7:06 p.m.

Air quality monitors are installed on top of a Utah Transit Authority electric bus on Friday, to get air quality readings from more locations in Salt Lake County. (Emily Ashcraft, KSL.com)

5 photos 31

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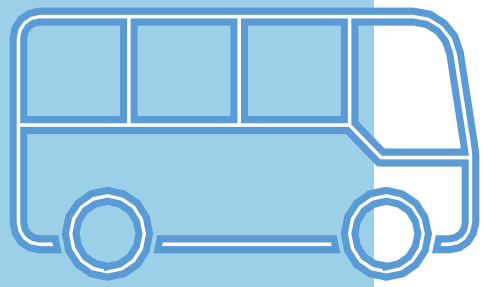
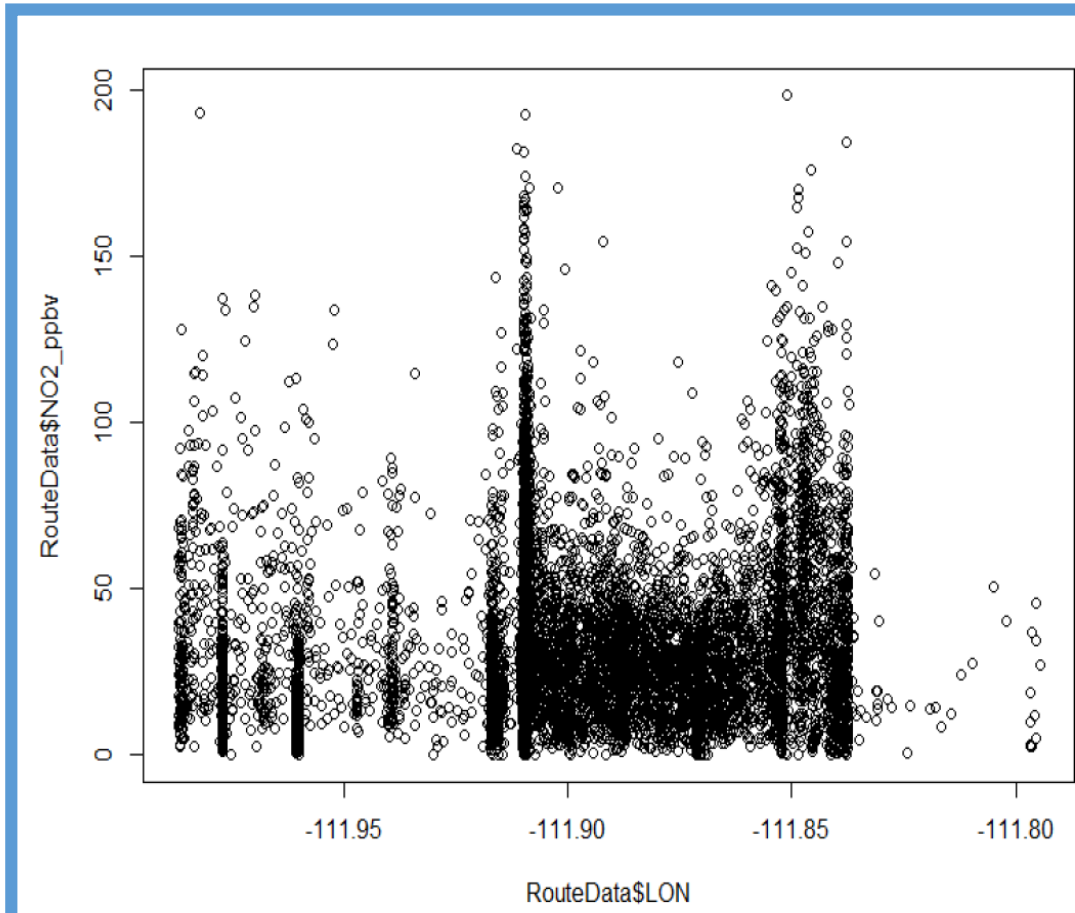
Results of Pilot



- Monitors measured PM 2.5, Ozone and Nitrous Dioxide
- Pilot project successfully demonstrated feasibility of technology.
- Air Monitors can be installed and collect usable data while on a moving E-bus platform
- Results allow project to move forward to phase 2



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Phase 2

- Building on success of pilot project Phase 2 calls for installation on 22 air monitor systems on UTA buses
- Utilize data to create one of the most detailed pollution mapping system in the world
- Development of public data website with real-time air monitor information
- Community outreach program tasked with increasing awareness in at risk communities about the program and air quality issues in general

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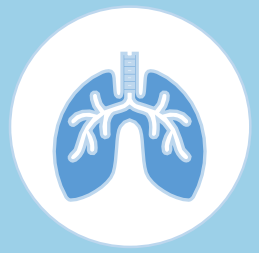
The Future of Air Quality Monitors

- Salt Lake County is requesting $120,000 for the purchase of 3 additional monitor systems
- Total project budget for 22 systems is $1,000,00
- Additional funds being provided by Salt Lake County, Salt Lake City, and EPA
- However, phase 2 is not fully funded at this time

FIRST-IN-THE-WORLD PROPOSAL

Benefits of Electric Bus Air Quality Monitors



- More accurate data gathering
- More focused policy initiatives

- Better reductions in air pollution
- Greater understanding of health effects

- Long-term cost savings through geographic, targeted incentive programs

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Program Budget

Budget Item	Subcost	Total
• Three Sensor System Construction: • The $PM_{2.5,}$Ozone, and NO2 sensor systems will consist of two components: 1) the monitor and 2) the data logging equipment. The two components will always be connected to each other and can be mounted on the bus	$6000	
3 PM2.5: MetOne ES-642 Sensor	$1,000	
3 Ozone: 2B Technologies Model 205 Sensor	$12,000	
3 NOx: 2B Technologies Model 405 Sensor	$15,000	
3 sensor systems total		$90,000
Ongoing maintenance and operational costs • Maintenance needed every two months for lifetime of monitors	$30,000	
		120,000

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Project Work Group

- Salt Lake County
- Utah Transit Authority
- Utah Division of Air Quality
- University of Utah
- Salt Lake City
- HEAL Utah

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Questions

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